

REMARKS

The Office rejects claims 1-12 and 15 in the subject application. Claims 1-12 and 15 (3 independent claims; 13 total claims) remain pending in the application. Although no claim amendments are made in this Response, a clean listing of the pending claims is provided due to some typographical errors in the prior claim listing in the prior Response. These typographical errors were not in the claims as originally filed, but were inadvertently in the prior Response filed by the Applicant. Reconsideration of this application is respectfully requested.

35 U.S.C. § 103 REJECTIONS

Saito in view of Da Ponte

The Office rejects claims 1, 3-8, and 10-12, and 15 under 35 U.S.C. §103(a) as allegedly being unpatentable over Saito¹ in view of Da Ponte². Applicant respectfully traverses the rejection.

Saito discloses a power control system having an external power line 107, a circuit breaker apparatus 101, a power line 102, and electric apparatuses such as an iron 104, an air-conditioner 105, and an electronic oven 106. The electronic apparatuses receive power from the electric power company over external power line 107.³ Breaker 101 monitors the power consumption, so that it does not exceed a predetermined value. If the power consumption exceeds the predetermined value, breaker 101 stops the power supply, keeps a log of the power consumption, and responds to power use permission requests from the electronic apparatuses.⁴

Da Ponte discloses a hybrid generator having a controllable electrical source 10 (controlled to vary its output) connected to a DC to DC converter 12. DC to DC converter 12 is applied to a load 14. Converter 12 decouples (or isolates) the intermediate DC output from fluctuations in the current and voltage output from source 10. This feature can accommodate substantial variations in the output of source 10. Converter 12 can also decouple or isolate source 10 from variations in load 14.⁵

¹ U.S. Patent No. 6,018,690, issued January 25, 2000.

² U.S. Patent No. 6,175,217, January 16, 2001.

³ Saito, column 6, lines 8-10.

⁴ Saito, column 5, lines 45-64.

⁵ Da Ponte, column 3, line 55 to column 4, line 15.

1. No Increase/Decrease Of Power Generation In Accordance With Second Power

Request Signal

Saito in view of Da Ponte fails to teach, advise, or suggest “the power generation apparatus increases or decreases the amount of power generation so as to match the amount of power generation with a target amount of power generation which is determined in accordance with the second power request signal” as recited in claim 1 (and claims 3-8, 10, 11, and 15, which variously depend from claim 1). As discussed above, Saito only permits a predetermined amount of power consumption. Da Ponte does not increase or decrease the amount of power generation so as to match the amount of power generation with a target amount, because Da Ponte only decouples or isolates source 10 or load 14. Da Ponte accommodates fluctuations in the output of source 10 by isolating the output from fluctuations in the current and voltage output from source 10 (and vice versa for load 14). In other words, Da Ponte merely decouples the source/load, but does not increase or decrease the amount of power generation.

2. No Varying Amount Of Power Generation

Saito in view of Da Ponte fails to teach, advise, or suggest “a power generation apparatus capable of varying an amount of power generation” as recited in claims 1 and 12 (and claims 3-8, 10, 11, and 15, which variously depend from claim 1). Contrary to the claimed invention, breaker 101 in Saito prevents the power consumption from exceeding the predetermined value, so that the Saito system cannot vary the amount of power consumption. More specifically, if a request is made to exceed the maximum amount of power allowed (M), a power consumption controller 306 rejects the request to use the power and prevents its use.⁶ Accordingly, Saito teaches away from the claimed invention in that Saito has a predetermined value of power that cannot be varied. Regardless, Saito monitors power “consumption”, but fails to address power “generation”, which is through the external electric company. Moreover, Saito’s teachings go against “a power generation apparatus capable of varying an amount of power generation” as recited in claims 1 and 12.

The Office does not cite Da Ponte as disclosing this feature. Regardless, Da Ponte does not make up for the shortcomings of Saito. Da Ponte does not disclose a power generation apparatus capable of varying an amount of power generation, but rather merely decouples or

⁶ Saito, column 8, lines 51-56.

isolates source 10 or load 14 from variations. Da Ponte's capability to "vary its output" is only in connection with decoupling source 10 or load 14 to accommodate fluctuations. Thus, Saito in view of Da Ponte fails to teach, advise, or suggest "a power generation apparatus capable of varying an amount of power generation" as recited in claims 1 and 12.

3. No Generating Second Power Request

Saito in view of Da Ponte fails to teach, advise, or suggest "the power control apparatus receives the plurality of first power request signals respectively from the plurality of electric products, generates a second power request signal for requesting an amount of power which is determined in accordance with a total amount of power requested by the plurality of first power request signals and outputs the second power request signal to the power generation apparatus" as recited in claim 1 (and claims 3-8, 10, 11, and 15, which variously depend from claim 1).

Neither Saito nor Da Ponte generate a second power request signal or outputs the second power request signal to a power generation apparatus. Indeed, neither Saito nor Da Ponte have the need for the second power request signal. Saito merely permits a predetermined amount of power consumption before breaker 101 stops the power supply. Da Ponte merely decouples source 10 or load 14 from fluctuations. Thus, Saito in view of Da Ponte fails to teach, advise, or suggest the claimed invention.

4. No Power Control From Power Generation Apparatus To Electric Products

Saito in view of Da Ponte also fails to teach, advise, or suggest "a power control apparatus for controlling power supply from the power generation apparatus to the plurality of electric products" as recited in claims 1 and 12 (and claims 3-8, 10, 11, and 15, which variously depend from claim 1). Since Saito only permits a predetermined amount of power consumption and Da Ponte merely decouples source 10 or load 14 from fluctuations, each reference teaches against controlling power supply from the power generation apparatus to the plurality of electric products as recited in claims 1 and 12. Moreover, Saito and Da Ponte obtain their power from an external electric company, so that neither reference deals with power generation as recited in the claimed invention.

Still further, Saito is geared toward monitoring power consumption to prevent the power consumption from exceeding a predetermined value. On the other hand, Da Ponte is geared

toward decoupling source 10 or load 14 to accommodate fluctuations or variations. In this respect, Saito teaches away from Da Ponte, because power requests above the predetermined value in Saito would trip the circuit breaker into cutting off the power supply. Thus, modifying Saito to include this feature of Da Ponte would make Saito inoperable for its intended use, namely to prevent cutting off the power supply.

5. Saito and Da Ponte Are Contrary

Saito and Da Ponte teach contrary to each other. Saito teaches a feed-forward control system; whereas, Da Ponte teaches a feed-back control system. In other words, Saito predetermines the permitted amount of power to be used, so that feed-back is irrelevant. Da Ponte requires feed-back in order to accommodate substantial variations in the output of source 10/load 14, so that feed-forward is irrelevant. In this way, Saito and Da Ponte teach against each other, so that one system would not be relevant to the other. Accordingly, it would not have been obvious to combine Saito and Da Ponte. Indeed, doing so would have made each system inoperable for its intended purpose, namely to provide feed-forward or feed-back control.

6. Saito and Da Ponte Fail

Thus, because Saito in view of Da Ponte fails to teach, advise, or suggest one or more of the claimed elements, and furthermore, combining these references would make Saito inoperable for its intended use, claims 1, 3-8, and 10-12, and 15 are patentable over Saito in view of Da Ponte. Applicant respectfully requests withdrawal of this rejection.

Saito and Da Ponte in further view of Wills

The Office rejects claims 2 and 9 under 35 USC §103(a) as allegedly being unpatentable over Saito and Da Ponte as applied to claims 1 and 6 and further in view of Wills⁷. Applicant respectfully traverses the rejection.

In view of the forgoing discussion in connection with claim 1 (from which claims 2 and 9 variously depend), claims 2 and 9 are patentable over Saito and Da Ponte as applied to claims 1 and 6 and further in view of Wills. Accordingly, Saito and Da Ponte in view of Wills fails to

⁷ U.S. Patent No. 6,219,623, issued April 17, 2001.

teach, advise, or suggest “the power generation apparatus is a fuel cell” as recited in claim 2 and “the power supply source is a storage cell” as recited in claim 9.

Wills discloses an apparatus for distributed power generation to protect against island situations. The Wills system detects variations in voltage and frequency of an electric distribution grid and changes the output power accordingly.⁸ Wills can change the output power based on the grid fluctuations, which teaches against Saito. Modifying Saito to include this feature of Wills would make Saito inoperable for its intended use, namely to prevent cutting off the power supply due to power demands above the predetermined value.

Thus, claims 2 and 9 are patentable over Saito and Da Ponte as applied to claims 1 and 6 and further in view of Wills, and Applicant respectfully requests withdrawal of this rejection.

Saito and Da Ponte in further view of Wills

The Office rejects claim 14 under 35 USC §103(a) as allegedly being unpatentable over Saito and Da Ponte as applied to claims 1 and 6 and further in view of Perkowski⁹.

Since claim 14 was cancelled in the prior Response to Office Action, this rejection is moot. Applicant respectfully requests withdrawal of this rejection.

⁸ Wills, Abstract.

⁹ U.S. Patent No. 6,625,581, issued September 23, 2003.

CONCLUSION

Thus, the Applicant respectfully submits that the present application is in condition for allowance. Reconsideration of the application is thus requested. Applicant invites the Office to telephone the undersigned if he or she has any questions whatsoever regarding this Response or the present application in general.

Respectfully submitted,

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